2005-Present Toyota Tacoma I 2003-Present 4Runner I 2007-2014 FJ Cruiser I 2003-Present Lexus GX Spacer Kit - 3/4" Lift by Low Range Off-Road (SKU# LR-TAC-FJ-1/2-K)

Installation Instructions

IMPORTANT NOTICE:
These instructions were developed using an 04 Toyota 4Runner. This 4Runner was equipped with the optional X REAS shock system, which stands for X-Relative Absorber System. To accomplish this same installation on a Non-X REAS vehicle these instructions will be somewhat limited, but still helpful. The main differences would be, that you do not need to remove the drive axle on the Non-REAS vehicle. The other difference would be that you could completely remove the shock absorber assembly to compress the spring, as apposed to compressing the spring in the vehicle as demonstrated in these instructions.

CAUTION: Safety glasses should be worn at all times when working with vehicles and related tools and equipment.

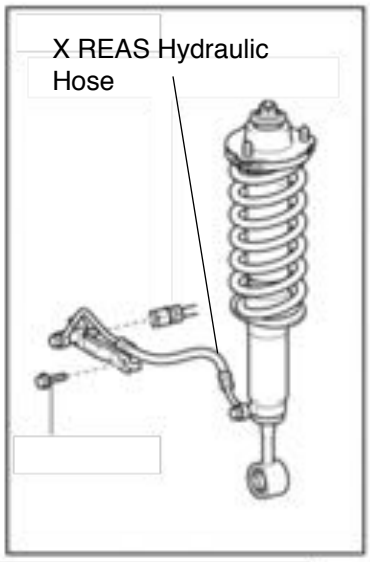
Suggested Tools:

- Diagonal Cutting Pliers
- Pick Tool - Hook Shape
- Larger Standard Screwdriver
- Cotter Pin Hook
- Large Pry Bar: 36”
- Sockets: 10,14,17,19, 21 & 35 mm
- Ratchet
- Combination Wrenches: 10,14,17,19 & 21mm
- Allen Sockets: 10 mm
- Vice Grip Pliers - 10 inch–round jaw
- Ball Peen Hammer - Large
- Small Cold Chisel
- large Drift Punch
- Coil Spring Compressor
- Torque Wrench: Foot-Pound

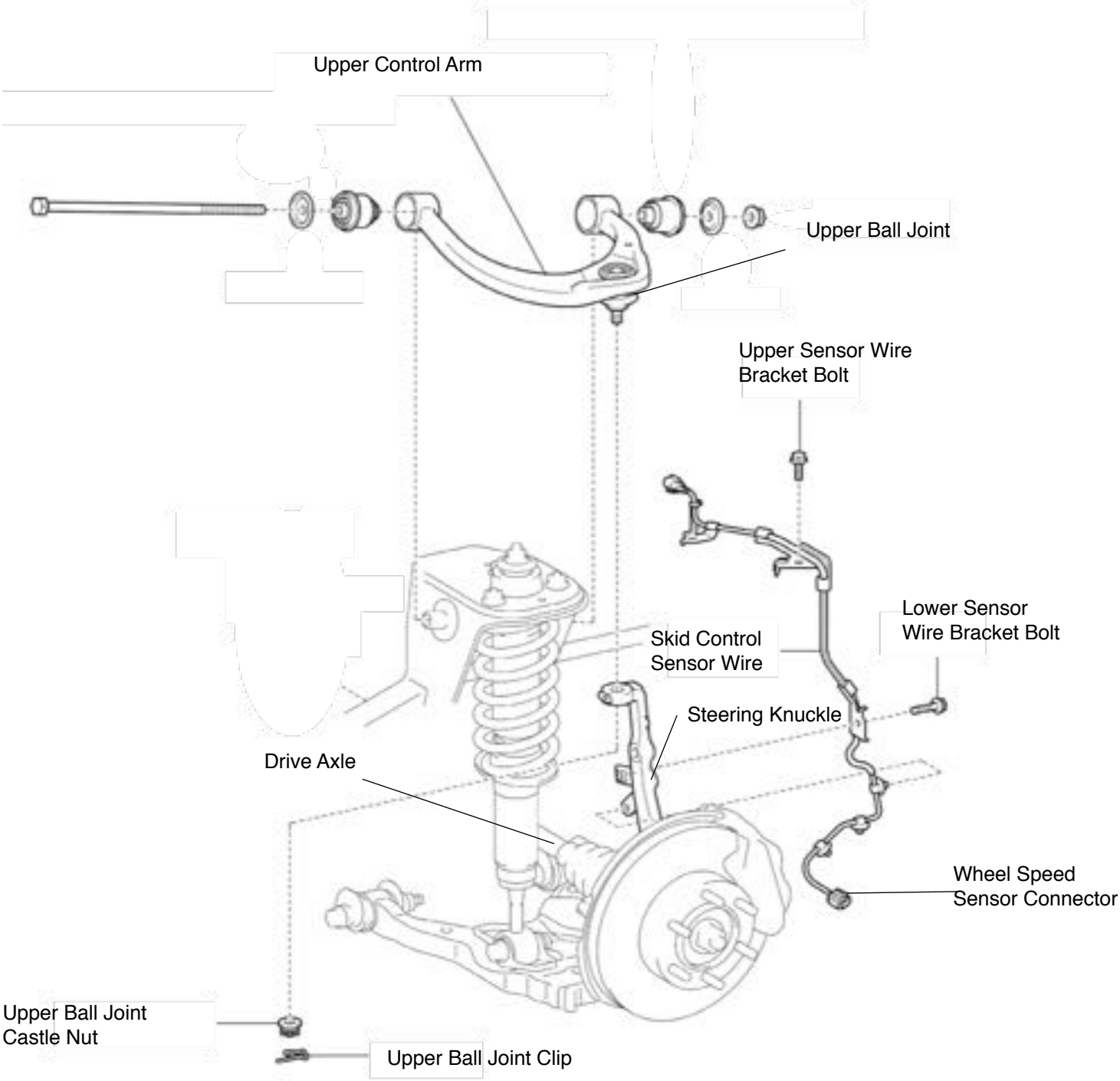
FOR ADDITIONAL COPIES OF THESE AND OTHER INSTRUCTIONS GO TO:
www.lowrangeoffroad and click on the **“TECH AND INSTRUCTIONS”** tab.

Front Suspension System Components

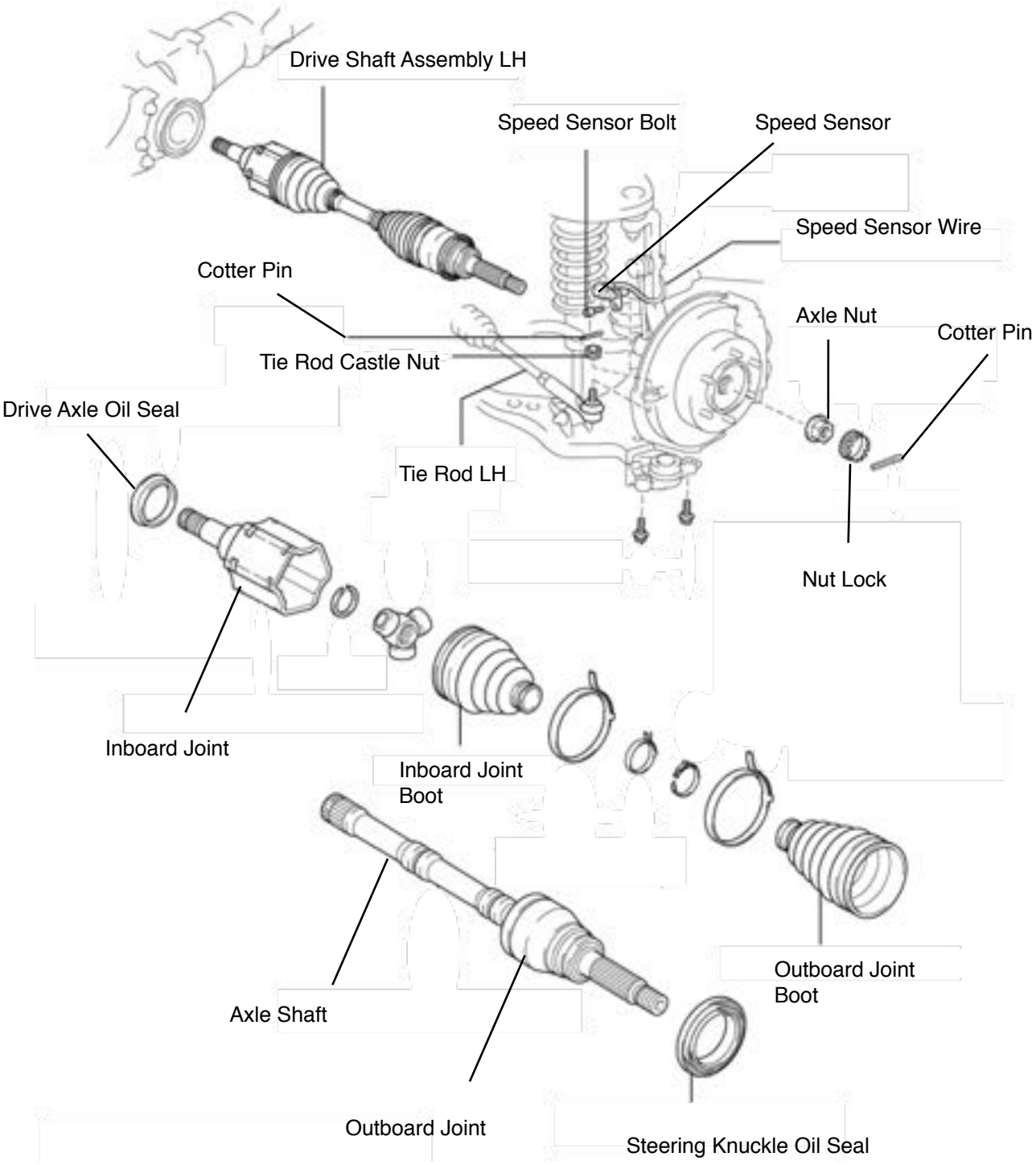
Optional X REAS Suspension



Front Suspension System Components (Continued)



Front Driver Axle and Components



Caution:

This vehicle will require a professional wheel alignment after this lift kit has been installed. Failure to have this vehicle professionally aligned could result in poor vehicle stability, handling, and braking; as well as excessive tread wear. Further, certain aspects of this installation can be dangerous. Therefore, we recommend that a trained professional technician install this kit.

General Note

The photographs for these instructions were taken with the vehicle placed on a twin post lift. However, this job could be done with a floor jack and jack stands. We also used power tools but, manual tools could be substituted and work reasonably well.

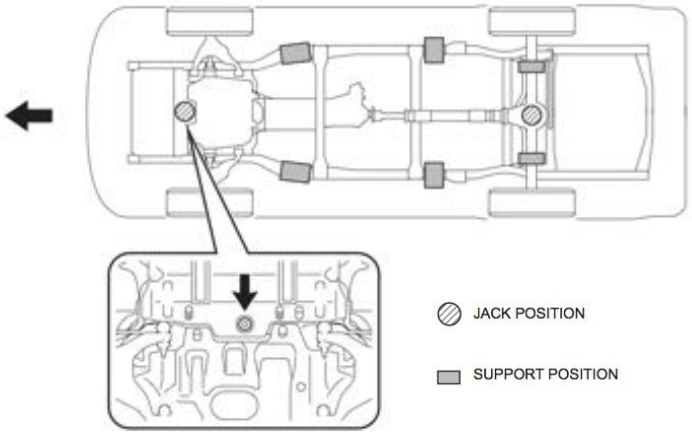


Figure A

Step 1

Lift the vehicle on a twin post lift.

or

Lift the front of the vehicle with a floor jack and support it with (2) jack stands. Refer to **Figure A** for proper floor jack and jack stand support positions.

Step 2

Remove the hub cap using a standard screwdriver.

Step 3

Remove the wheel assembly by removing the (6) lug nuts using a 21 mm socket.

Step 4

Disconnect the upper sensor wire bracket using 10 mm combination wrench.

Step 5

Disconnect the lower sensor wire bracket using a 10 mm socket.

Step 6

Disconnect the wheel speed sensor using a hook shaped pick tool.

Step 7

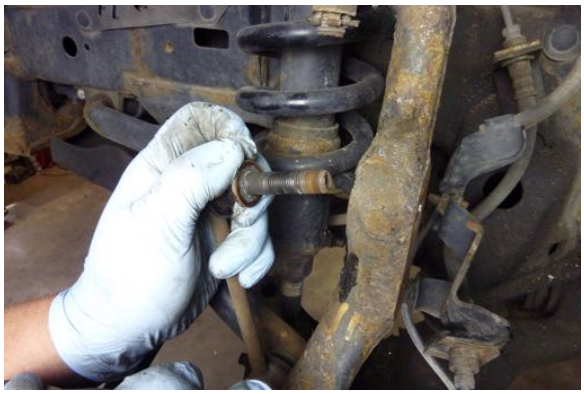
Disconnect the 1st sensor wire clip using a hook shaped pick tool.

Step 8

Disconnect the 2nd sensor wire clip using a hook shaped pick tool and lay the sensor wire back out of the way.

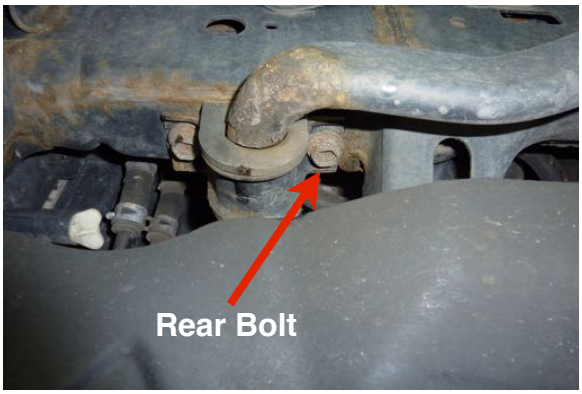
Step 9

Disconnect the stabilizer link from the steering knuckle by holding the shaft with vice grip pliers and removing the nut using 17 mm socket.



Step 9 Continued

Stabilizer link disconnected.



Step 10

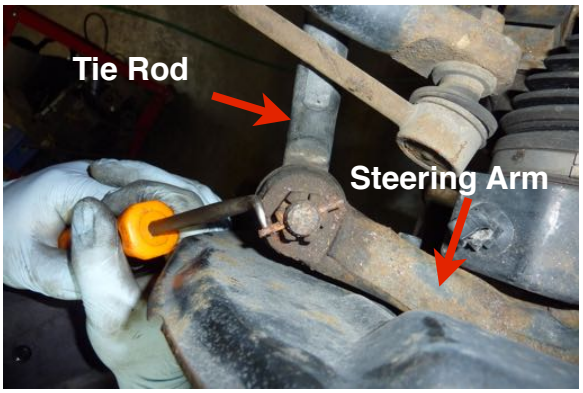
Remove the stabilizer bracket rear bolt using a 14 mm socket.

Step 11

Loosen (but do remove) the stabilizer bracket front bolt and remove the stabilizer bracket.

Step 12

Repeat **Steps 10 & 11** on the passenger side stabilizer bracket.



Step 13

Remove the tie rod end cotter pin using a cotter pin hook tool.

Step 14

Loosen the tie rod end castle nut (5 or 6 turns) using a 19 mm socket.

Step 15

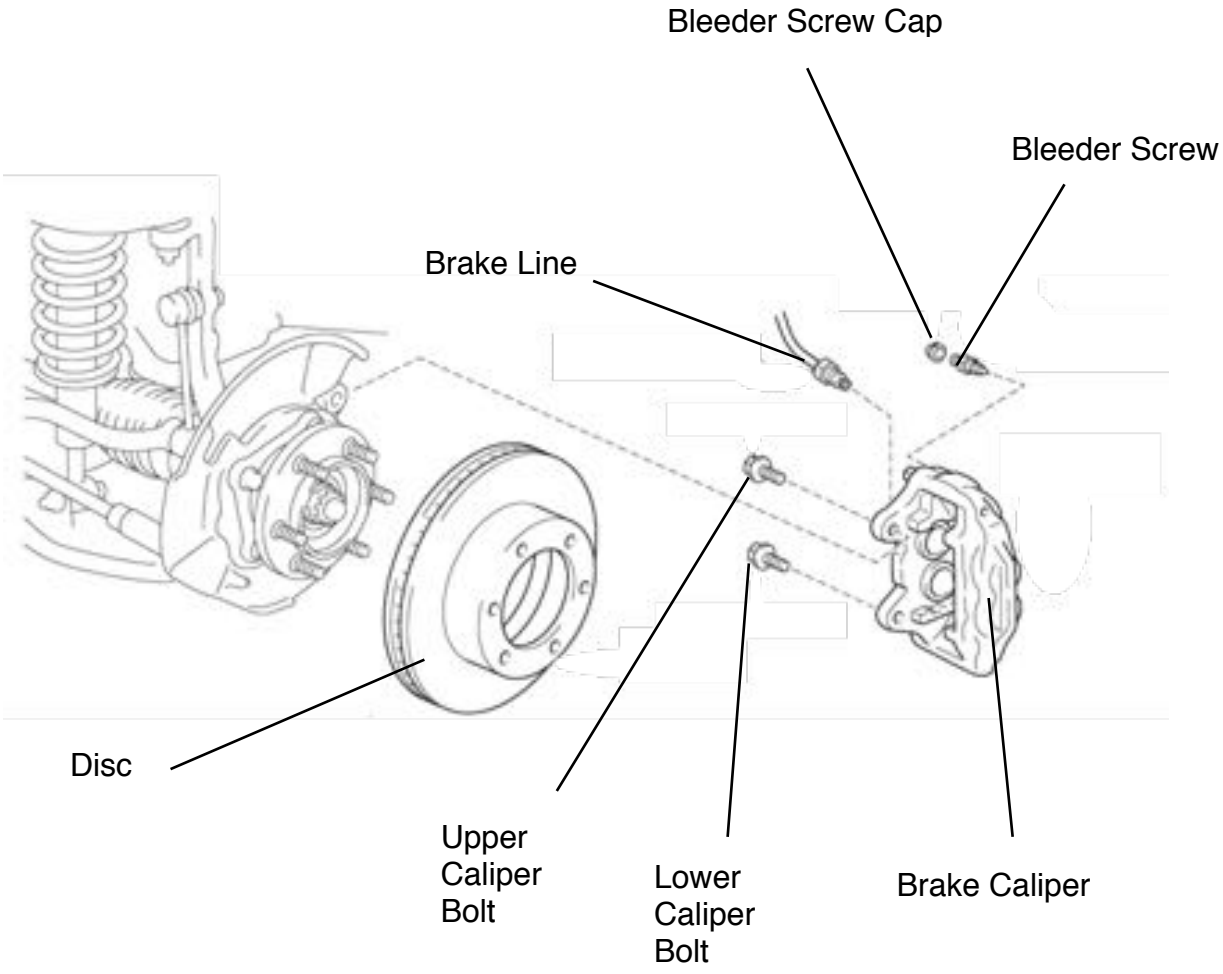
Separate the tie rod from the steering arm by the striking steering arm, sharply with a ball peen hammer.

Note: This may take several blows. Don't be shy. Hit it hard.

Step 15 Continued

Remove the castle nut and disconnect the tie rod from the steering arm.

Front Disc Brake Components



Step 16

Remove the upper caliper bolt using a 17 mm socket.

Step 17

Remove the lower caliper bolt using a 17 mm socket.

Step 18

Reinstall one lug nut, hand tight, to keep the disc from falling off after the caliper is removed.

Step 19

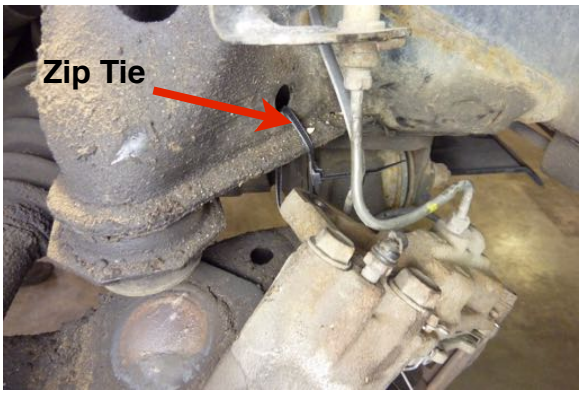
Carefully pry the outboard brake pad slightly away from the disc using a flat blade screwdriver. This will make the caliper easier to remove.

Caution: Do not mar the machined (shinny) disc surface.

Step 20

Lift the caliper away from the disc.

Caution: Do not suspend the caliper by the brake hose.



Step 21

Suspend the brake caliper, out of the way, by using a zip tie or tie wire.

Step 22

Remove the hub cover using a small cold chisel and a hammer. This is done by lightly tapping the chisel in several locations around the circumference of the cover. Be careful, this cover is easily damaged.

Step 22 Continued

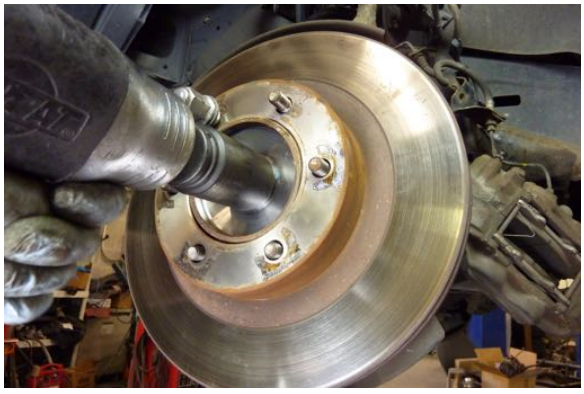
Hub cover removed.

Step 23

Using diagonal cutting pliers, straighten the legs on the cotter pin and remove it.

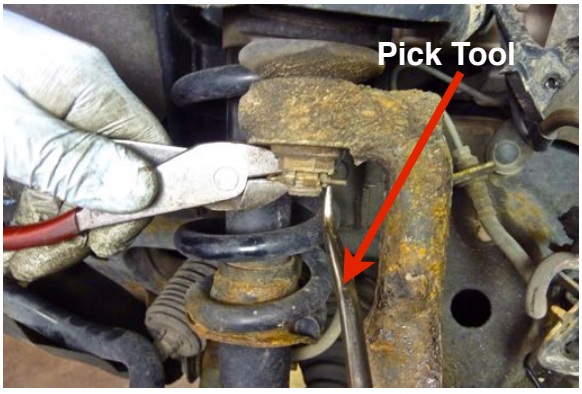
Step 24

Remove the nut lock.



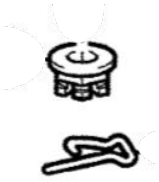
Step 25

Remove the axle nut using a 35 mm socket.



Step 26

Remove the upper ball joint clip (similar to a cotter pin) using a pick tool and diagonal cutting pliers.



Step 27

Remove the upper ball joint castle nut using a 19 mm socket.

Note: This nut is tight. It will take some effort.

Step 28

Separate the upper ball joint from the steering knuckle by striking the steering knuckle sharply with a ball peen hammer.

Note: This may take several blows. Hit it hard. But, be careful to not damage the ball joint threads.

Step 28 Continued

Ball joint and steering knuckle disconnected.

Step 29

Disconnect the lower end of the shock absorber from the lower control arm by removing the bolt. Hold the bolt with a 19 mm box end wrench and remove the nut with a 19 mm socket.

Step 30

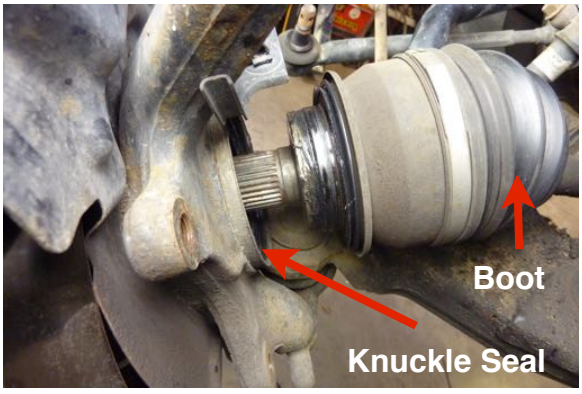
You my have to push down on the lower control arm and brake assembly to free this bolt.

Step 31

Pry down on the lower control arm using a large pry bar and free the lower shock absorber from the bracket.

Step 32

Drive the axle shaft back into the hub as far as it will go using a drift punch and ball peen hammer. We used an impact hammer. Regardless of the tool you use make sure **NOT** to damage the threads of the axle shaft.



Step 33

While continuing to pry down on the lower control arm, carefully remove the axle shaft from the back of the steering knuckle.

Caution: Be extra careful not to damage the steering knuckle oil seal or outboard boot.

Step 34

Axle removed from the steering knuckle.

Step 35

Using a large pry bar, pry the inboard joint out of the differential.

Note: It is a good idea to place a drain pan under the inboard axle joint to catch any oil that escapes.

Step 36

Remove the drive axle and set it aside.

Step 37

Install the spring compressors and compress the coil spring.

Caution: Always follow the tool manufacturers instructions when compressing springs. Serious injury can result if not done properly.

Step 38

While holding the upper shock absorber shaft with vice grip pliers, remove the upper shock absorber nut using a 17 mm open end wrench.

Step 39

Remove the upper cushion retainer.

Step 40

Remove the shock absorber cushion.

CAUTION!

DO NOT DAMAGE THE X REAS HYDRAULIC HOSE (SEE FIGURE B). IF THIS HOSE OR ASSOCIATED FITTINGS LEAK FLUID IN ANY WAY THE SYSTEM WILL NOT FUNCTION PROPERLY AND IS A VERY EXPENSIVE TO REPAIR.

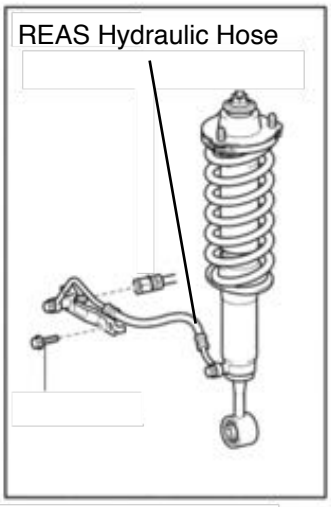
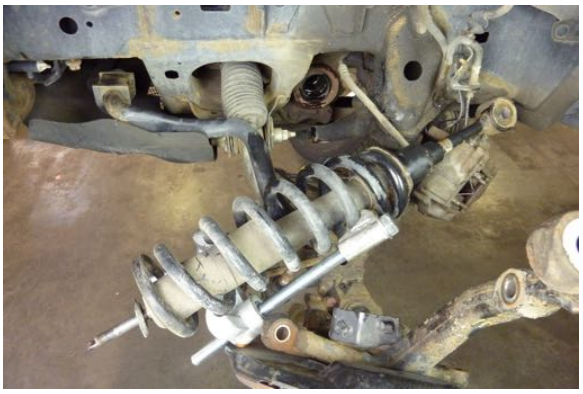


Figure B

Step 41

Carefully work the shock absorber and coil spring downward . . . . . .



Step 42

. . . . . and lay it **CAREFULLY** on the lower control arm as shown.

Caution: Do not suspend the shock absorber by the REAS hose.

Step 43

Remove the upper spring cushion

Step 44

Remove the (3) upper shock mount nuts using 14 mm socket.

Note: The inside nut is difficult to access. You will likely need a ratcheting box end wrench or equivalent.

Step 45

Remove the upper shock mount.

Step 46

Position each stud over a 7/8 impact socket as shown and press the studs out of the upper shock mount.

Note: We used a hydraulic press but these studs could be driven out with a hammer.

Step 47

Position the (3) supplied studs in the upper shock mount as shown.

Note: It may be helpful to secure these studs by taping them in with a hammer. Although it is not necessary because they will be drawn into place when the nuts are installed and tightened.

Step 48

Place the supplied spacer on the studs as shown.

Step 49

Apply blue Loctite® to the threads of the studs.

Step 50

Position the upper shock mount as shown.

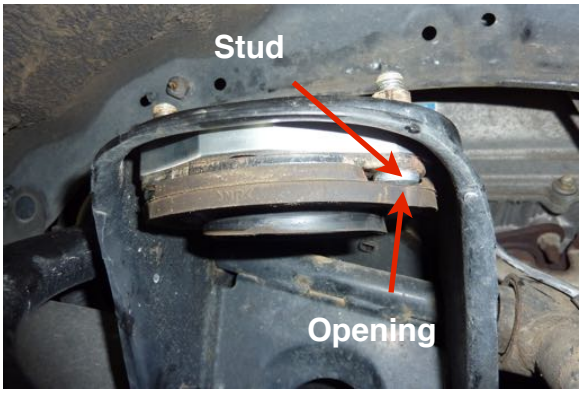
Note: These studs are equally spaced and will fit in any position.

Step 51

Install the original upper shock mount nuts and tighten to 47 ft. lbs.

Step 52

Install the upper spring cushion.



Tech Tip

Insure that the openings in the cushion are positioned on the studs.

Step 53

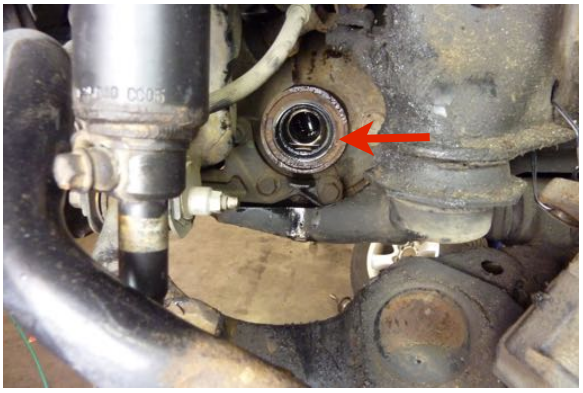
Install the spring and shock assembly as shown.

Step 54

Install the shock absorber cushion.

Step 55
Install the upper cushion retainer.

Step 56
Install the shock absorber shaft nut and torque to 18 ft. lbs.



Step 57
Inspect the inboard drive axle oil seal. Replace if needed.

Step 58
Inset the inboard joint of the drive axle into the differential opening.

Step 59

Pop the inboard joint into place with a sharp lunging motion.

Note: Insure the axle is locked into place by tugging gently on the **INBOARD JOINT ONLY**.

CAUTION: DO NOT PULL ON THE **OUTBOARD JOINT** OR **AXLE SHAFT**. SOME INBOARD JOINTS CAN COME APPART INSIDE WHICH REQUIRES COMPLETE DRIVE AXLE DISASSEMBLY TO REPAIR.

Steering Knuckle Oil Seal

Step 60

Inspect the steering knuckle oil seal and replace it if needed.

Step 61

Pull out on the steering knuckle and carefully insert the outboard axle shaft into the steering knuckle.

Caution: Do not damage the steering knuckle oil seal.

Step 62

Apply blue Loctite® to the threads of the axle.

Step 63

Install the axle nut and torque to 217 ft. lbs.

Step 64

Install the nut lock and cotter pin.

Note: It is recommended that you use a new cotter pin.

Step 65

Bend the legs on the cotter pin.

Step 66

Position the hub cover as shown.

Step 67

Gently tap the hub cover into place using a small cold chisel and a hammer.

Note: Tap in several locations around the circumference of the cover.

Step 68

Position the lower shock into the lower control arm and install the bolt.

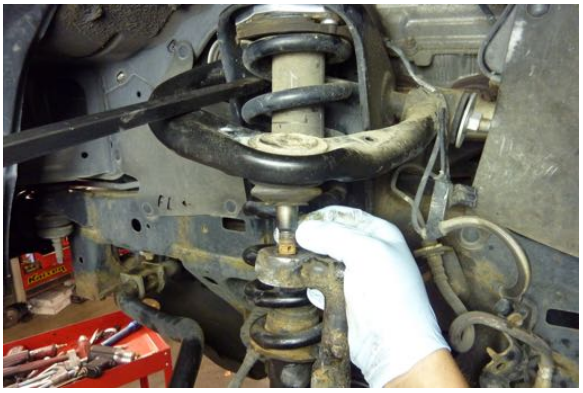
Step 69

Install the washer and nut, and torque the nut to 100 ft. lbs.

Step 70

Remove the spring compressors.

Note: Guide the spring into the upper spring cushion as you release tension on the spring compressor nuts.

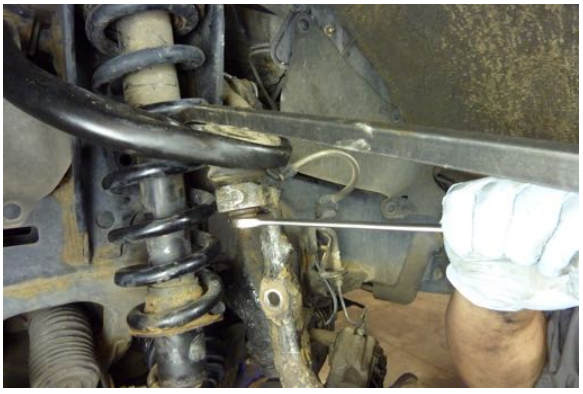


Step 71

While prying downward on the upper control arm with a larger pry bar, guide the upper ball joint stud into the steering knuckle.

Step 72

While continuing to pry downward on the upper control arm, install the castle nut.



Step 73

Continue prying downward as you tighten the ball joint nut to 81 ft. lbs.

Step 74

If the hole in the stud aligns with the castle nut, install the clip. If not, continue tightening (NEVER LOOSEN) the castle nut until the clip can be installed.

Step 74 Continued

Installing the clip.

Step 75

Install the stabilizer link into the steering knuckle.

Step 76

Install the stabilizer link nut and torque to 70 ft. lbs.

Step 77

Install the tie rod into the steering arm.

Step 78

Install the castle nut and torque to 91 ft. lbs.

Step 79

If the hole in the tie rod stud and the castle nut align, install the cotter pin. If not tighten (NEVER LOOSEN) the castle nut until the cotter pin can be installed.

Note: It is recommended that you install a new cotter pin.

Step 80

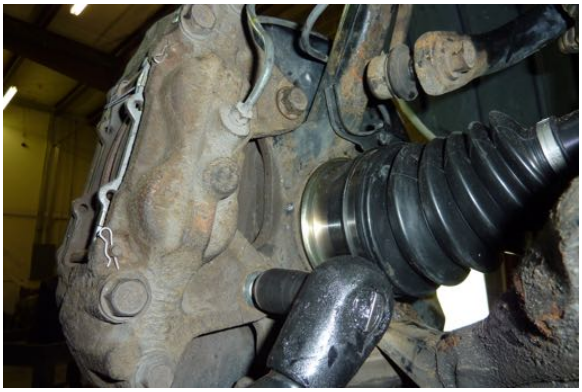
Bend the upper leg of the cotter pin over the tie rod stud.

Step 81

Release the restraint suspending the brake caliper . . . .

Step 82

. . . . and reinstall the brake caliper on the disc.



Step 83

Install both brake caliper bolts and torque to 91 ft. lbs.

Step 84

Position the sensor wire upper bracket, install the bolt and torque to 9 ft. lbs.

Step 85

Position the lower sensor wire bracket, install the bolt and torque to 9 ft. lbs.

Note: Be sure the tab fits in the hole.

Step 86

Reconnect the wheel speed sensor.

Note: Push the connector in until it snaps and locks.

Step 87

Reconnect the (2) sensor wire clips.

Step 88

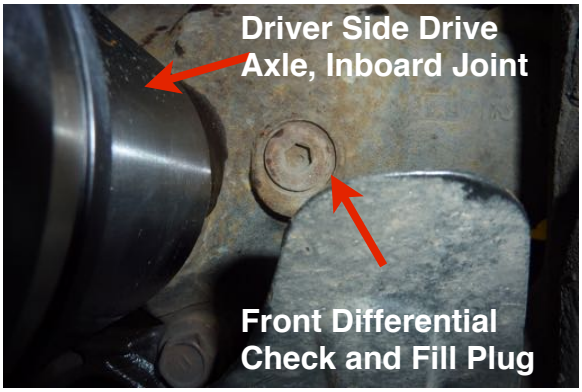
Repeat **Steps 2 to 87** on the passenger side wheel.

Step 89

Position the PASSENGER SIDE stabilizer bracket on the front stabilizer bolt and install the rear stabilizer bracket bolt. Torque both bolts to 40 ft. lbs.

Step 90

Repeat **Step 89** on the DRIVER SIDE stabilizer bracket.



Step 91

If fluid was lost from the front differential during this job, check the fluid lever by removing the check & fill plug, using a 10 mm allen socket. Fluid should be between the bottom of the hole and 5mm below. (See Figure C) If it is not, fill it with Differential Gear Oil LT SAE 75W–85 API GL–5 or equivalent and reinstall the plug. Torque the plug to 29 ft. lbs.

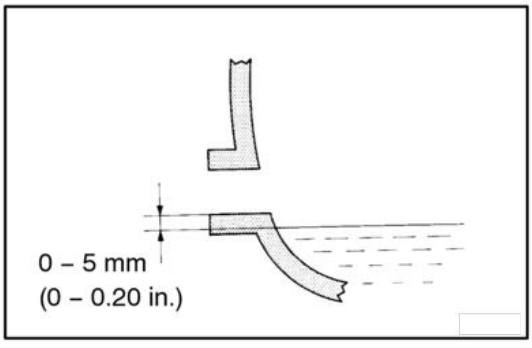
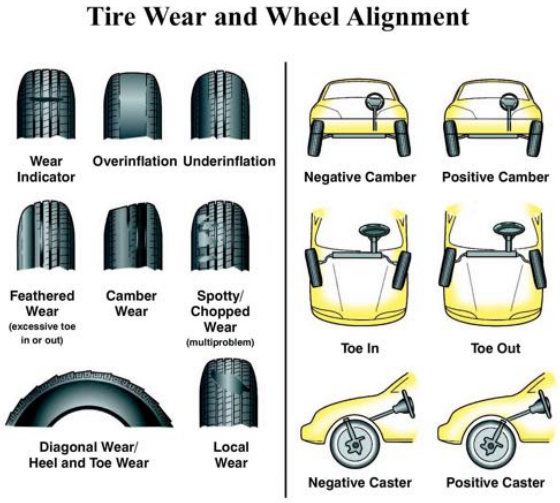


Figure C

Step 92

Install the driver and passenger side wheel assemblies. Torque the lug nuts on aluminum wheels to 80 ft. lbs. (85 ft. lbs. for all others)



Step 93

Lower the vehicle to the floor.

CAUTION: Vehicle alignment will **NOT** be accurate after this installation. Safe handling, braking, and tire tread life will be affected. We strongly recommend having your vehicle professionally aligned as soon as possible.

Congratulations!!!

You are finished. Thanks for letting us help you with this installation. If you have suggestions on how we can improve our instructions or products please give us a call.

As always, If you experience any difficulty during the installation of this product please contact Low Range Off-Road Technical Support at 801-805-6644 M-F 8am-5pm MST. Thank you for purchasing from Low Range Off-Road.

These instructions are designed as a general installation guide. Installation of many Low Range Off-Road products require specialized skills such as metal fabrication, welding and mechanical trouble shooting. If you have any questions or are unsure about how to proceed, please contact our shop at 801-805-6644 or seek help from a competent fabricator. Using fabrication tools such as welders, torches and grinders can cause serious bodily harm and death. Please operate equipment carefully and observe proper safety procedures.

Rock crawling and off-road driving are inherently dangerous activities. Some modifications will adversely affect the on-road handling characteristics of your vehicle. All products sold by Low Range Off-Road are sold for off road use only. Any other use or application is the responsibility of the purchaser and/or user. Some modifications and installation of certain aftermarket parts may under certain circumstances void your original dealer warranty. Modification of your vehicle may create dangerous conditions, which could cause roll-overs resulting in serious bodily injury or death. Buyers and users of these products hereby expressly assume all risks associated with any such modifications and use.